REMARKS

Status of the Claims

In the Office Action, claims 1-10 and 12-24 were rejected. In this response, claims 14-18 and 22-24 are newly cancelled. Claims 1-10, 12-13, and 19-21 are now pending in the application.

Claim Rejections under 35 U.S.C. §112

Claims 1-10, 12-13, and 19-21 were rejected as allegedly being indefinite for failing to particularly point out and distinctly claim the subject matter which the applicants regard as the invention.

Specifically, claim 1 was rejected as being unclear as to whether the first module is the one registering the first events of interest or the second module is the one registering the first events of interest, and as to who is interested in the event.

Claim 1 recites:

> second causing, by the first module, the second module to register first events of interest to the second module with an event notification service;
>
> waiting, by the first module, for notification of occurrence of one or more of the first events . . .

Thus, the claim clarifies that the first module causes the second module to register the first events. Also, claim 1 clarifies that the first events are of interest to the second modules. Accordingly, the applicants respectfully request withdrawal of the rejection of claim 1 and associated dependent claims 2-8.

Claim 9 was rejected as being unclear as to which module is interested in the first events. Claim 9 recites *waiting, by the first module, for notification of occurrence of one or more of first events of interest to the second module*. Accordingly, the applicants respectfully submit that the first events are of interest to the second module, and request withdrawal of the rejection to claim 9 and associated dependent claims 10 and 12-13.

Claim 19 was rejected as being unclear as to which module is interested in the events. Claim 19 recites *the second module having at least a selected one of a first set of executable*

instructions to register events of interest to the second module. Thus, the claim clarifies that the events are of interest to the second modules, and also clarifies that the second module registers the events. Accordingly, the applicants respectfully request withdrawal of the rejection to claim 19 and associated dependent claims 20-21.

Claim Rejections under 35 U.S.C. §102(e)

Claims 14-15 and 22-23 were rejected as allegedly being anticipated by Gongwer et al (US 7,155,701). The applicants cancel claims 14-15 and 22-23, thereby making the rejection of these claims moot.

Claim Rejections under 35 U.S.C. §103(a)

Claims 1-10 and 12-13 were rejected under §103(a) as allegedly being unpatentable over Wollrath et al. (US 6,463,446) in view of Gongwer.

Claim 1 recites:

> second causing, by the first module, the second module to register first events of interest to the second module with an event notification service;
>
> waiting, by the first module, for notification of occurrence of one or more of the first events; and
>
> third causing, by the first module, the second module to process an occurred one of the first events.

It is asserted in the Office Action that Wollrath teaches causing by the first module, the second module to register first events. For support, the Office Action referred to the following section of Wollrath:

> (1) registering interest in an occurrence of an event in the distributed computer system, the registration of interest including information identifying the occurrence of the event, . . . (2) monitoring . . . for the occurrence of the registered event; (3) notifying the software entity identified in the registration of interest when the event occurs, . . ., and (4) executing methods contained within the first object in response to the notifying step. . .[1]

[1] Wollrath, col. 3, ll. 36-47, emphasis added.

Thus, Wollrath discloses registering interest in an occurrence of an event, identifying the occurrence of the event, and notifying an entity (identified during the registration) when the event occurs, and methods executed in response to the notification. The cited section of Wollrath, however, does not clarify which entity is interested in the event, which entity is causing the registration of the events, and which entity processes the event.

Claim 1 recites that the first module causes the second module to register first events that are of interest to the second module. Thus, the module (i.e., the second module) that performs the recited registration is interested in the first events. In Wollrath, however, the entity that registers and identifies the events is different from the entity that is interested in the event. Wollrath's identification entity notifies a software entity, which appears to be interested in the event, about the occurrence of the event. Wollrath does not specifically disclose a registration entity that registers events that are of interest to that entity, as required by claim 1. Wollrath also does not disclose that the entity that registers the event also processes the occurred event, as required by claim 1.

Claim 1 also recites that the first module causes the second module to register the events, waits for notification of occurrence of the event, and also causes the second module to process an occurred one of the first events. In the cited section, Wollrath fails to identify a single entity that causes a second entity to register the events, wait for notification of occurrence of the event, and also causes the second entity to process the occurred event.

A more detailed description of Wollrath's event registration and notification system is illustrated in Fig. 4, which includes an administrator process 402 and a notifier process 403. The administrator process 402 may be interested in an event (e.g., a "Diskfull" event), and may register an interest in the event by transmitting a registration message to the notifier process 403.[2] During the registration process, the administrator process 402 designates the virtual machine 408 to be a recipient of a notification message whenever the event occurs.[3] Notifier process 403 monitors the system for the occurrence of an event, and whenever the event occurs, notifies the machine 408.[4] Thus, Wollrath's process 402 and the machine 408 is interested in the event, and

[2] Wollrath, col. 7, ll. 49-52.
[3] Wollrath, col. 7, ll. 57-59.
[4] Wollrath, col. 7, ll. 64-66.

the notifier process 403 merely identifies the occurrence of the event to the machine 408, which processes in response to said notification.

In contrast, claim 1 recites that the first module causes the second module to register the event and also recites that the event is of interest to the second module. On the other hand, the notifier process 403 of Wollrath (that actually registers the event) is not interested in the event (rather, process 402 and machine 408 is interested in the events). Wollrath does not disclose or suggest that the notifier process 403 has any interest in the event. Notifier process 403 merely identifies the event and notifies other entities (e.g., machine 408) about the event.

Furthermore, claim 1 recites that the first module causes the second module to register the events, the first module waits for notification of occurrence of the event, and the first module also causes the second module to process an occurred one of the first events. Wollrath, however, fails to identify a single module or process that causes a second process to register the event, waits for notification of occurrence of the event, and also causes the second process to process an occurred one of the events. For example, Wollrath discloses process 402 causing process 403 to register events. Process 402, however, does not wait for a notification of an occurrence of the event (the occurrence notification is given to machine 408), as required by claim 1. Further, process 402 does not cause the machine 403 to process the occurred event, as required by claim 1.

For at least these reasons, Wollrath cannot be said to disclose or suggest the features of claim 1. Gongwer fails to remedy Wollrath's deficiencies. Claim 1, therefore, is allowable over Wollrath even if Wollrath were combined with Gongwer along with dependent claims 2-8.

Independent claim 9 includes recitations similar to those discussed with respect to claim 1, and thus, claim 9 is also in condition for allowance, along with associated dependent claims 10 and 12-13.

Claims 16-17, 19-20, and 24 were under §103(a) as being unpatentable over Gongwer in view of Wollrath.

The applicants cancel claims 16-17 and 24, thereby making the rejection of these claims moot.

Independent claim 19 recites the *"second module . . . to register events of interest to the second module, . . . to process an occurred one of the events of interest, and . . . to perform clean up during thread termination."* In the Office Action, it appears to be asserted that Gongwer discloses a module to register events of interest to the second module and perform clean up during thread termination, and cites several lines in Gongwer. The applicants could not find in the cited section a reference to registering events of interest. As best understood by the applicants, Gongwer's modules register one or more interfaces (e.g., name of the interface and a pointer to the interface).[5] However, as will be readily understood by those skilled in the art, an interface (which may be a pointer) is different from an event, and the Office Action fails to specifically identify where Gongwer discloses registering any event. Similarly, the Office Action also fails to identify where Gongwer discloses processing an occurred event of the events of interest.

As previously discussed, Wollrath also fails to disclose a module registering an event that is of interest to that module and processing the occurred events.

For at least these reasons, claim 19 is in condition for allowance, along with associated dependent claim 20.

Claim 18 was rejected under §103(a) as being unpatentable over Gongwer et al. in view of UPNP. The applicants cancel claim 18, thereby making the rejection of this claim moot.

Claim 21 was rejected under §103(a) as being unpatentable over Gongwer et al. in view of Wollrath et al., and further in view of UPNP. Claim 21 depends from allowable claim 19, and thus, is allowable for at least the reasons claim 19 is allowable.

[5] Gongwer, col. 3, ll. 8-10.

CONCLUSION

In light of the above amendments and remarks it is submitted that pending claims are in condition for allowance. Early issuance of Notice of Allowance, therefore, is respectfully requested.

The Commissioner is hereby authorized to charge shortages or credit overpayments to Deposit Account No. 500393.

Respectfully submitted,

SCHWABE, WILLIAMSON & WYATT, P.C.

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/Ayanendu Paul/
Ayanendu Paul
Limited Reg. No. L0383

Pacwest Center, Suites 1600-1900
1211 SW Fifth Avenue
Portland, Oregon 97204
Telephone: 503-222-9981